



Acute Coronary Syndromes

ROLE OF DELTA CARDIAC TROPONIN I TO DISTINGUISH BETWEEN TYPE I NSTEMI AND TYPE II MYOCARDIAL INFARCTION

Poster Contributions

Poster Sessions, Expo North

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Background: Numerous pathologies aside from ACS are associated with an increased cardiac troponin (cTn). We hypothesized that delta cTn would be useful for improving diagnostic accuracy and distinguishing outcomes of spontaneous MI (type 1) versus MI secondary to supply/demand imbalance (type 2).

Methods: We retrospectively reviewed and adjudicated 1119 consecutive patients presenting to the ED with serial (0,3,6h) cTnI measurements (OCD Vitros; 99th percentile 34 ng/L). STEMI were excluded.

Results: Type 1 MI occurred in 9.5% (n=29 STEMI, n=77 NSTEMI) and type 2 in 15.5% of patients (n=174). Concentrations of cTnI were higher in NSTEMI vs type 2 MI patients at 0 and 6h (each p=0.01) with a strong trend at 3h (p=0.08). The absolute concentration delta (ROC area 0.57) and percent change delta (0.53) at 0-3h did not improve diagnostic accuracy of NSTEMI vs type 2 MI compared to 3h cTnI (0.59). Mortality rates at 180 days were similar for NSTEMI (17%) and type 2 MI patients (24%) (NS), but increased (each p < 0.001) compared with patients having no AMI and normal cTnI at 0h (4.9%; n = 773) (Figure). Hazard ratios were 4.0 (CI 2.0, 7.7) for NSTEMI and 5.9 (CI 3.7, 9.6) for type 2 MI relative to patients with no MI and normal cTnI.

Conclusion: Delta calculations were not useful in distinguishing NSTEMI from type 2 MI although cTnI concentrations were higher in NSTEMI patients. Type 2 MI patients experienced increased mortality similar to NSTEMI patients which highlights the need for further investigation into therapy for Type 2 MI.

